

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES SECTION**

PART VI –C (ARCHIVES)

WATERBODY MANAGEMENT PLAN SERIES

LAKE MARTIN

**AQUATIC VEGETATION TYPE MAPS
AND NARRATIVES – 2016**

AQUATIC VEGETATION TYPEMAPS AND NARRATIVES 1986 - 2011

Lake Martin

September, 1986

Charles N. Dugas

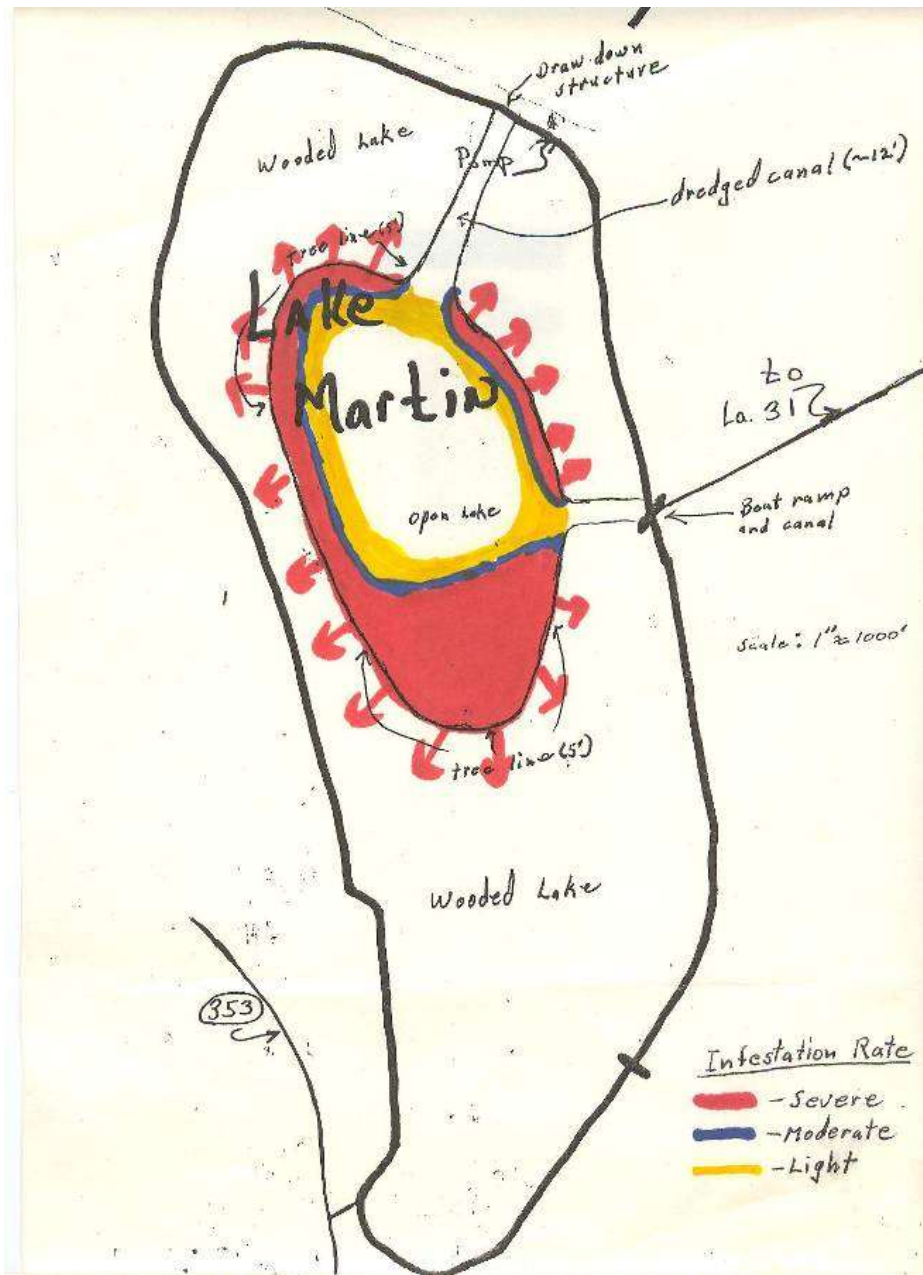
Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on September 15, 1986.

Coontail, Ceratophyllum demersum, was the dominant submersed vegetation encountered in Lake Martin. The infestation rate was severe in all water 5 feet or less in depth. There were moderate growths of fanwort (Cabomba caroliniana) and bladderwort (Utricularia sp.) mixed with the coontail.

Frog's bit (Limnobium spongia) was more plentiful than in the previous year. The infestation extended throughout the flooded woods and canals along the shoreline.

Although the south end of the lake was more severely infested with submersed vegetation than in the previous year, the overall rate of infestation seemed less severe. Especially at the north end where the area of vegetation - free water was noticeably larger.

The weather on the day of the survey was clear and hot with a light breeze. The lake water was moderately turbid.



LAKE MARTIN

September, 1987

Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on September 25, 1987.

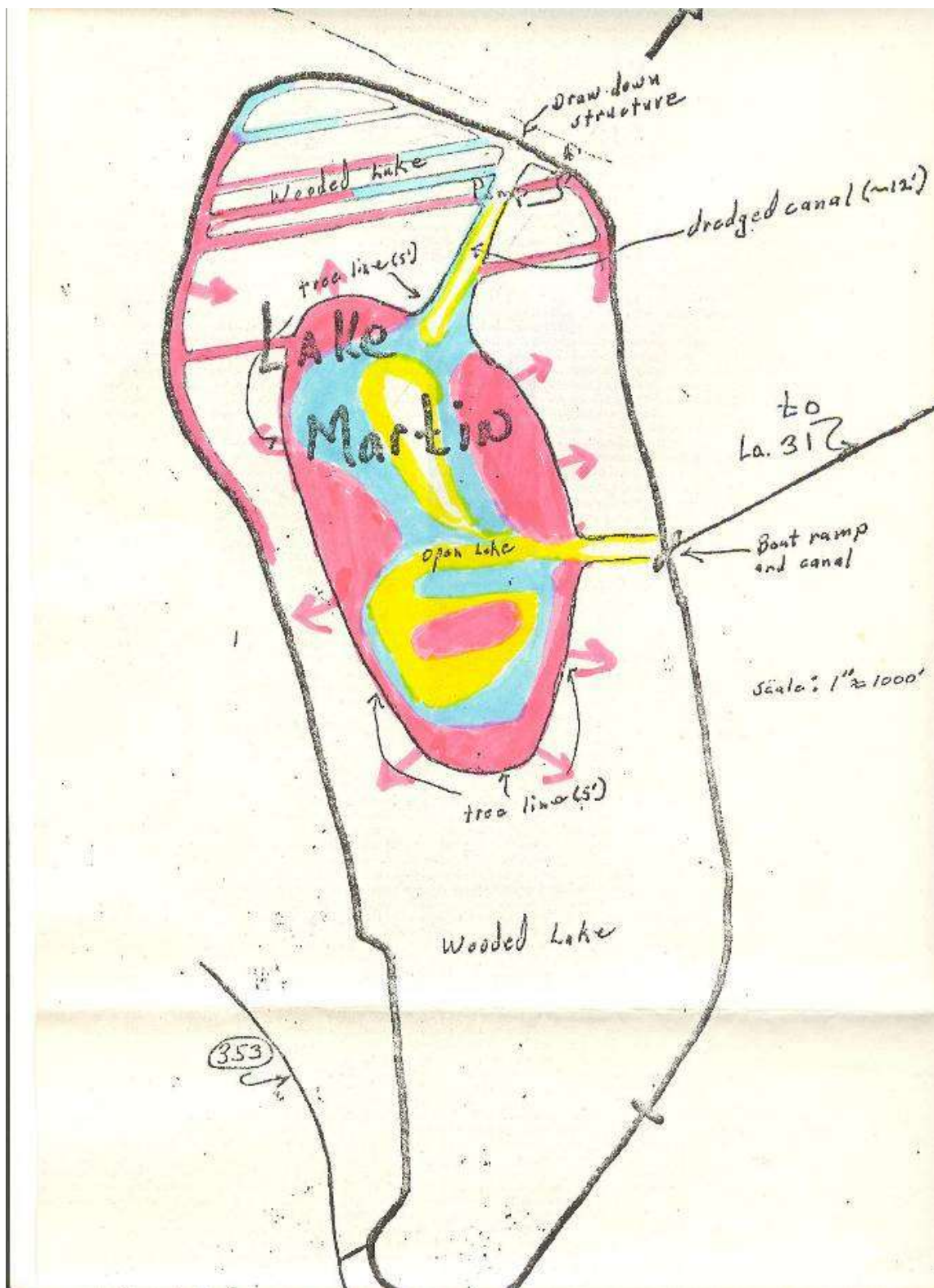
Coontail, Ceratophyllum demersum, was the dominant plant encountered from the flooded woods to the 6-foot contour in the open water lake. The infestation rate was severe to moderate in water 6 feet or less and light in deeper water. There were severe to moderate infestations of fanwort, Cabomba caroliniana, in depths 6 feet to 7 feet and light infestations from 7 to 8 feet. Water greater than 8 feet deep was relatively free of vegetation. There were scattered patches of bladderwort, Utricularia sp., throughout the lake.

Duckweed, Lemna minor, was present in the woods and in 50% of the open lake. The infestation rate was severe in most areas. Water fern, Azolla sp., was mixed with the duckweed in light rates.

Frogbit, Limnobium spongia, and alligator weed, Alternanthera philoxeroides, formed dense mats in the woods and most of the boat lanes through the woods. Water hyacinth, Eichhornia crassipes, was also present in the woods.

The lake had less surface area that was free of vegetation than in previous years. The infestation rate towards the center of the lake has increased although the south end is much less severe.

The weather on the day of the survey was clear and warm (86 degrees Fahrenheit) with a light breeze. The water temperature was 82 degrees Fahrenheit and the water was clear to lightly turbid (secchi-3'). The water level was at 10 feet MSL.



Lake Martin

September, 1988

Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on September 29, 1988.

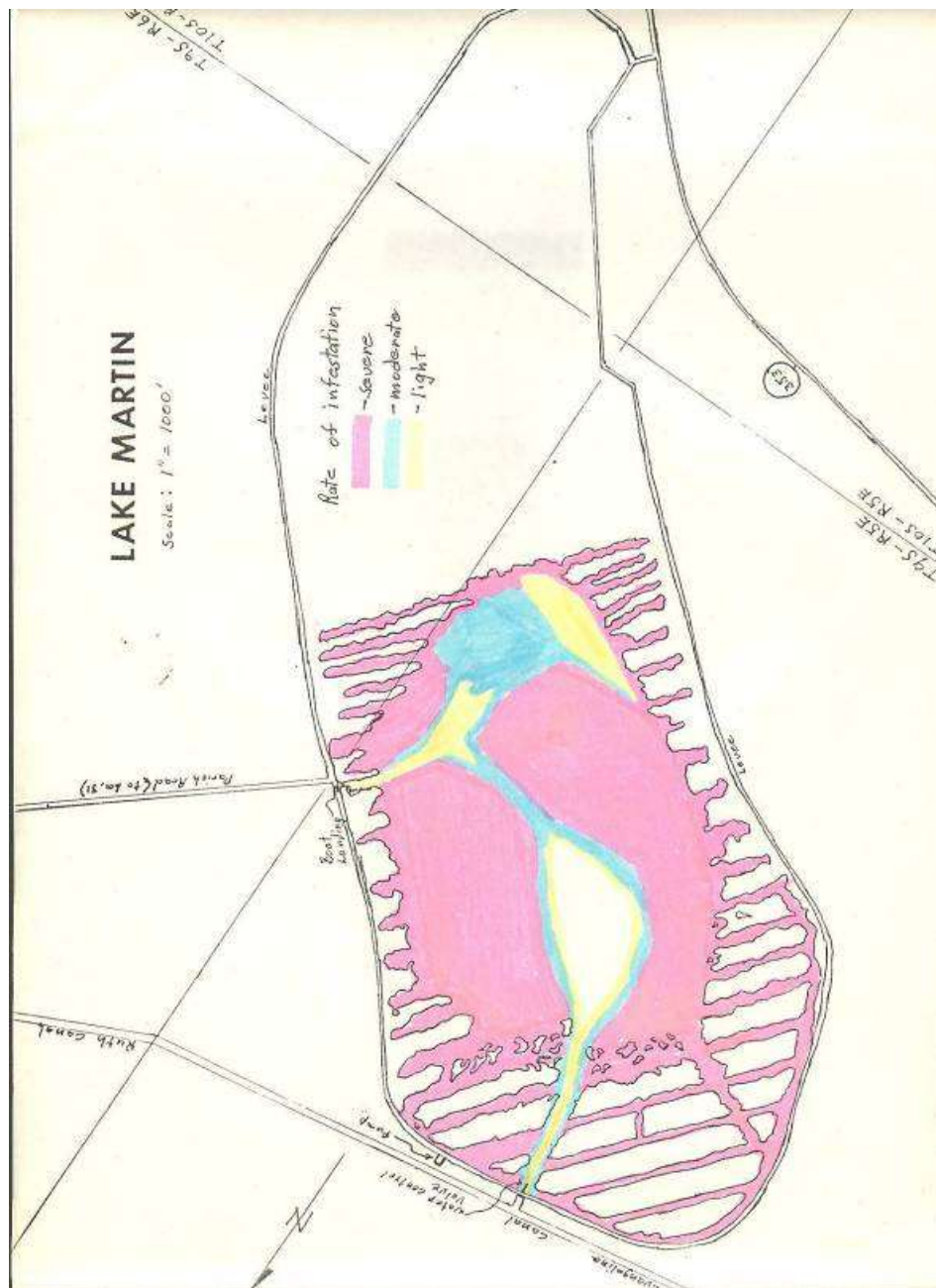
Coontail, Ceratophyllum demersum, and fanwort, Cabomba caroliniana, were the dominant submersed plants found in Lake Martin. The infestation rate was severe in most water less than seven (7) feet deep. However, some areas of the lake, most notably the southern end, that were 5-6 feet deep had only light to moderate infestations. Bladderwort, Utricularia sp., was mixed with the coontail and bladderwort.

Duckweed, Lemna minor, covered about 75% of the lake. The infestation rate was severe. Water-meal, Wolffia sp., was present in light infestations.

Frogbit, Limnobium spongia, and water hyacinth, Eichhornia crassipes, were much less abundant than in the previous years. These plants were found mostly in the flooded woods.

It was difficult to characterize the weed infestation according to depth contour. Some relatively shallow areas had light to moderate infestation while deeper areas had severe infestations. A small area in the center of the lake was relatively free of vegetation. This area was approximately seven (7) feet deep. Adjacent areas of the same depth were severely infested. Apparently, depth is not the only factor determining the distribution of submersed aquatic plants in this lake.

The weather on the day of the survey was clear, warm and calm. The water was clear to lightly turbid (secchi - 29"). The water level was at 9.75 feet MSL.

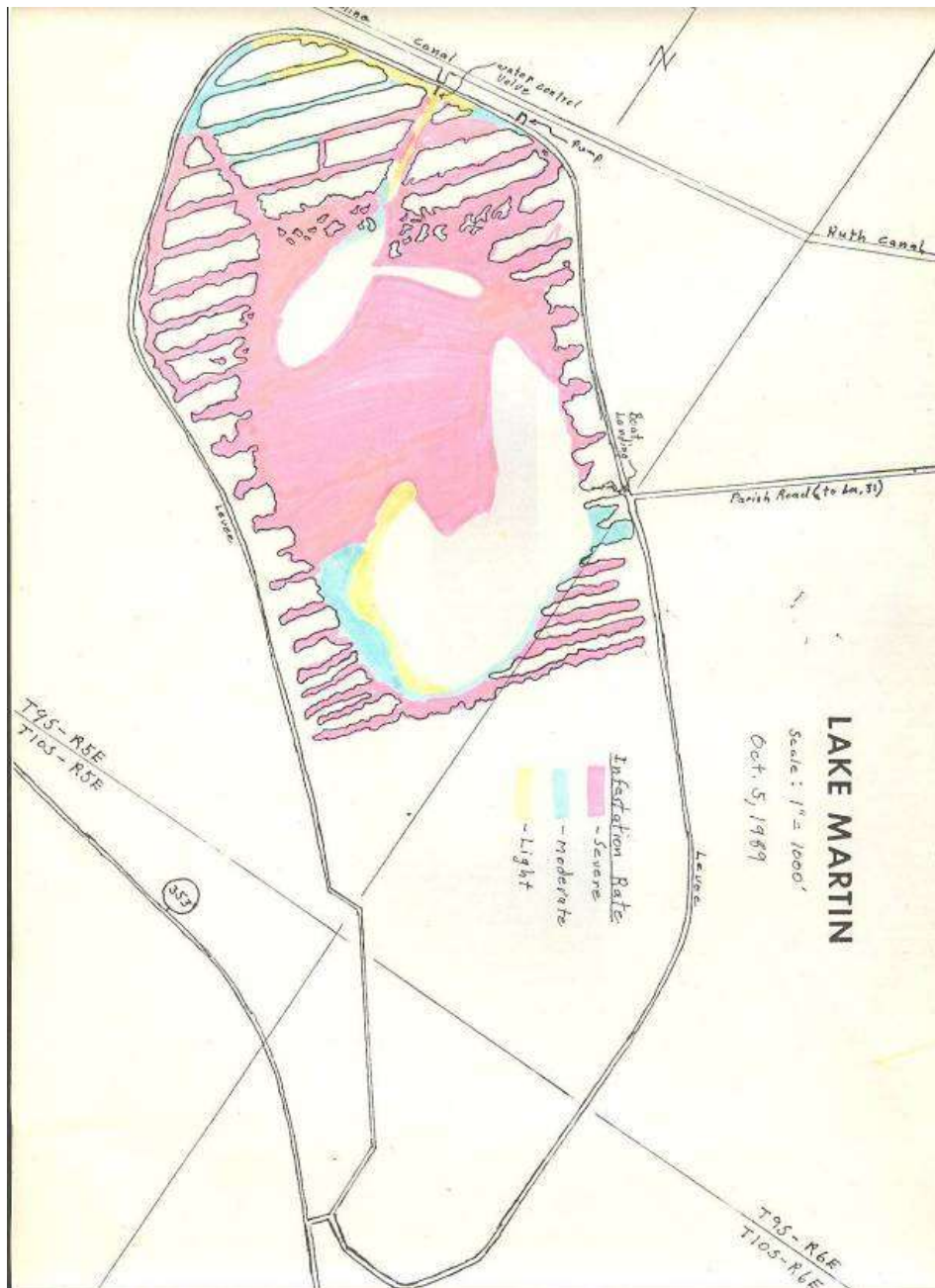


LAKE MARTIN
October 1989
Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 5, 1989.

Fanwort (Cabomba caroliniana) was the dominant submersed aquatic plant found in the center of the lake, whereas coontail (Ceratophyllum demersum) predominated in the canals and along the tree line at the edge of the lake. There was some bladderwort (Utricularia sp.) mixed in with both of the above species.

There was an abundance of duckweed (Lemna minor) and watermeal (Wolffia sp.) present, especially where the submersed vegetation was topped out. Water hyacinth (Eichhornia crassipes) and frog's bit (Limnobia spongia) were present in moderate amounts, mostly in the woods.



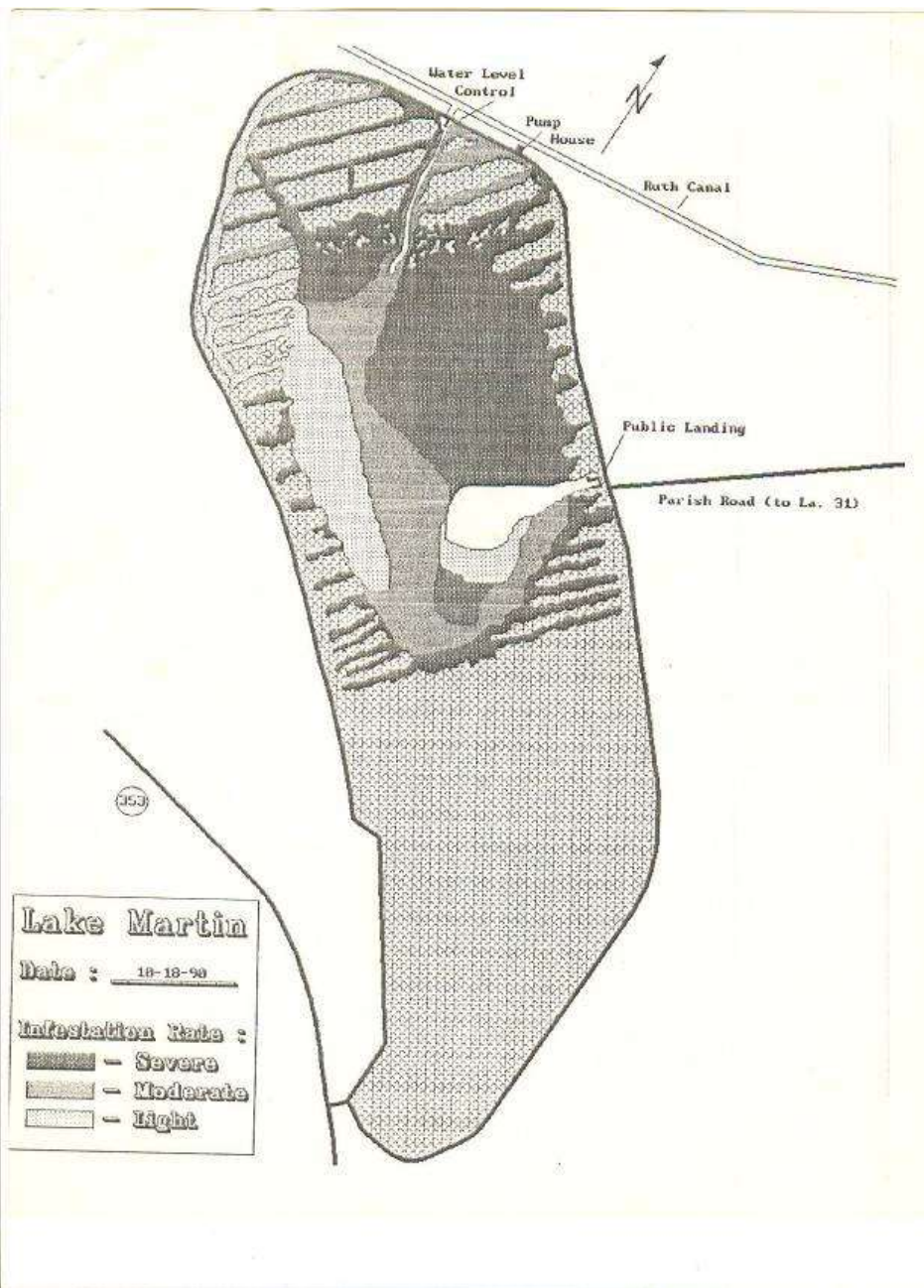
LAKE MARTIN
October 1990
Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 18, 1990.

Panwort, Cabomba caroliniana, was the predominant submersed vegetation found in the open water area of the lake. Approximately 60% of this area was heavily infested, while the rest was moderate to light. Along the tree-line, in the flooded woods and in the canals, coontail, Ceratophyllum demersum, predominated. There was very light infestations of bladderwort, Utricularia sp., in all areas.

There was an abundance of duckweed, Lemna minor, and watermeal, Wolffia sp., present, especially where submersed vegetation was topped out. Water hyacinth, Eichhornia crassipes, and frog's bit, Limnobis spongia, were present in moderate amounts.

The weather on the day of the survey was clear, cool and very windy (north at 15-20 mph). The water was clear to lightly turbid (secchi-3') and the temperature of the water was 68 degrees fahrenheit. The lake level was at 8.5 feet.



LAKE MARTIN
October 1991
Charles N. Dugas

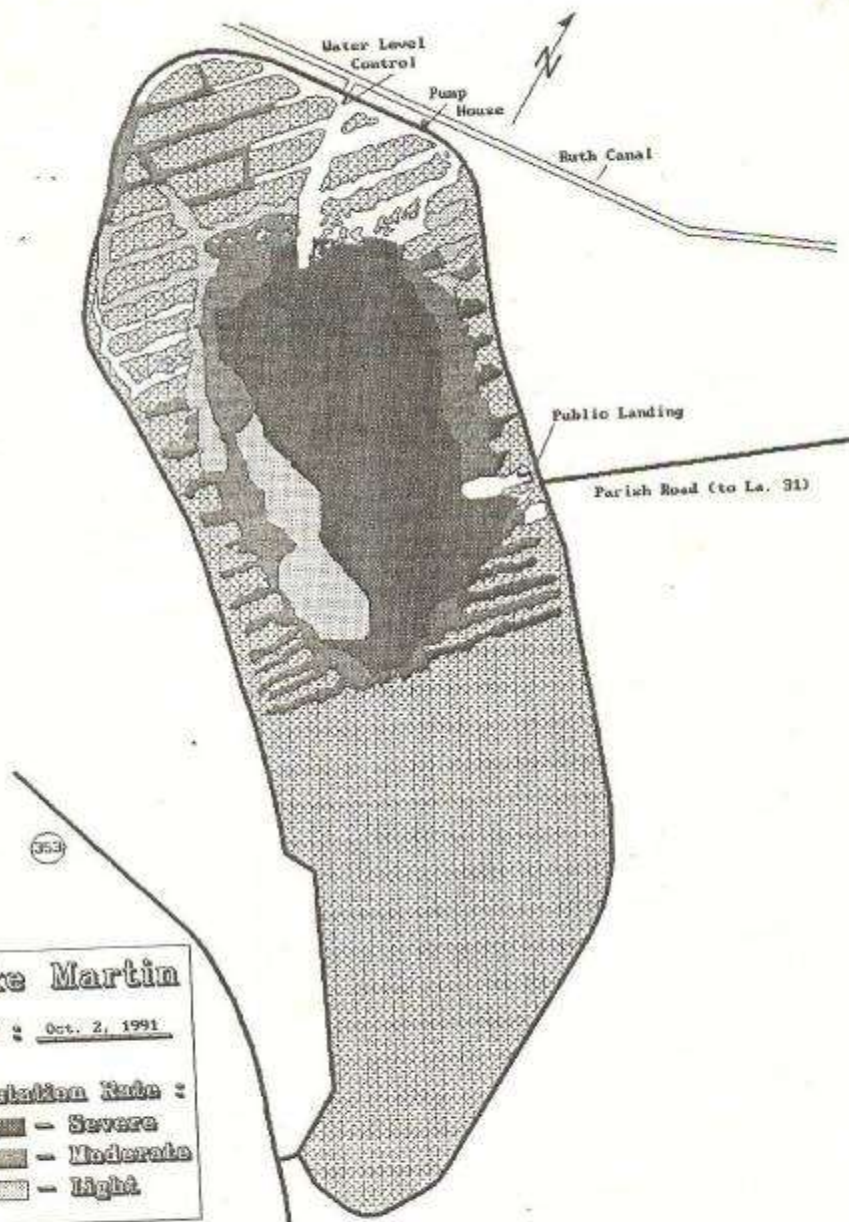
Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 2, 1991.

Fanwort, Cabomba caroliniana, was the predominant submersed vegetation found in the open water area of the lake. Approximately 80% of this area was heavily infested, while the rest was moderate to light. Along the tree-line, in the flooded woods and in the canals, coontail, Ceratophyllum demersum, predominated. There was also some coontail mixed with the moderate infestations of fanwort. Light infestations of bladderwort, Utricularia sp., were found in all areas.

There was an abundance of duckweed, Lemna minor, and watermeal, Wolffia sp., present, especially where submersed vegetation was topped out. Water hyacinth, Eichhornia crassipes, and frog's bit, Limnobia spongia, were present in moderate amounts.

The weather on the day of the survey was clear to partly cloudy and warm (76 degrees F). Wind speed was less than 5 miles per hour. The water was fairly clear (secchi-4') and the temperature of the water was 77 degrees F. The lake level was at 10 feet.

Lake Martin
Date : Oct. 2, 1991
Infestation Rate :
■ - Severe
■ - Moderate
■ - Light



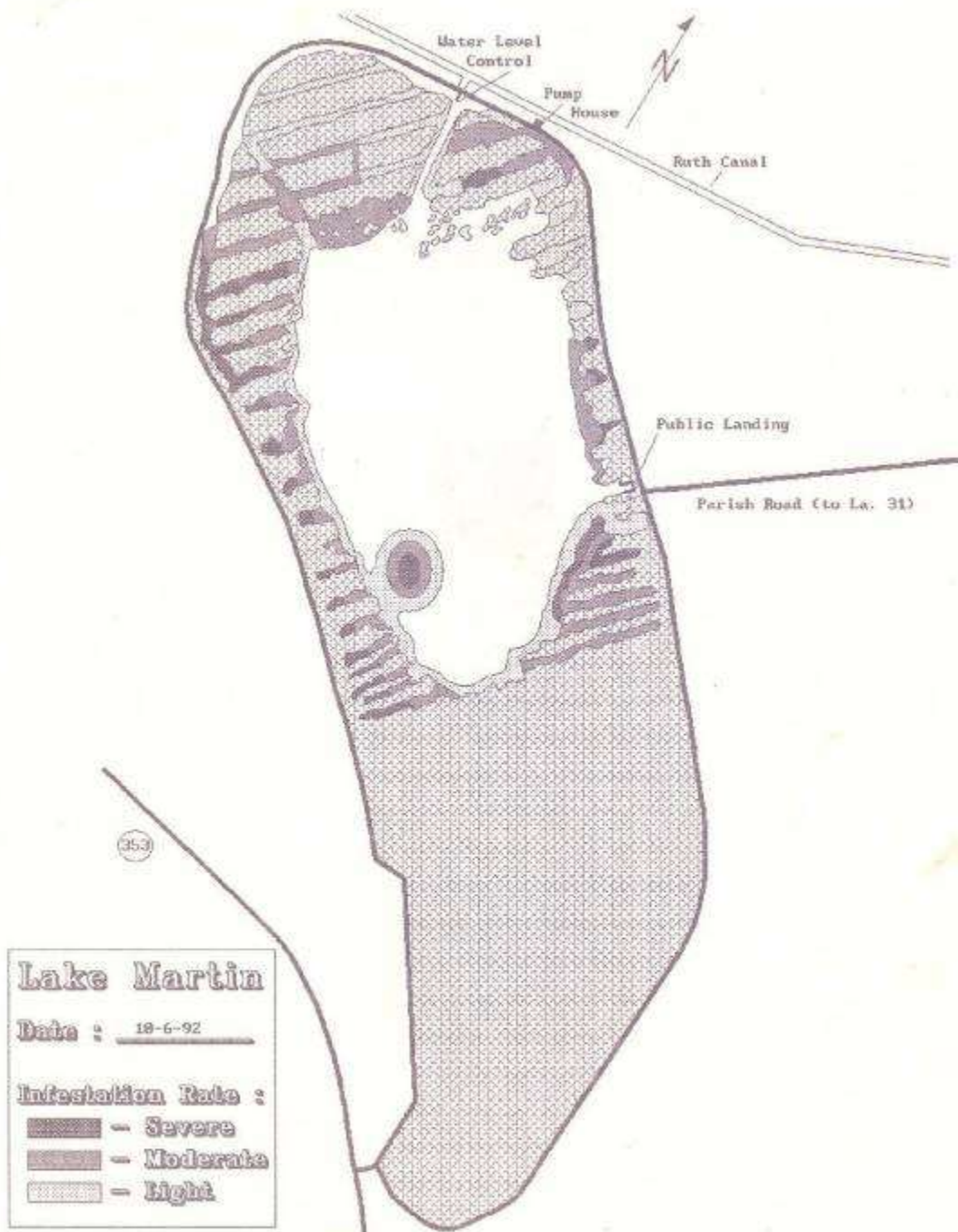
LAKE MARTIN
October 1992
Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 6, 1992.

The occurrence of submersed vegetation was much less than in past years. The predominant plant was coontail, *Ceratophyllum demersum*. Fanwort, *Sagittaria caroliniana*, the dominant plant in the past, was not observed. The infestation of coontail was severe in water four feet deep or less. This was mostly at the ends of the canals that cross the flooded woods. In most of the canals, in water four to five feet deep, the infestation was moderate to light. In the southern part of the open water area there was a small area of moderate to severe infestation.

There was an abundance of duckweed, *Lemna minor*, and watermeal, *Wolffia* sp., present in the canals and flooded woods. There was very little water hyacinth, *Eichhornia crassipes*, and frog's bit, *Limnobium spongia*, observed anywhere in the lake.

The weather on the day of the survey was clear and warm (82 degrees F). Wind speed was about 5 miles per hour. The water was clear (secchi- 4-5 feet) and the water temperature was 76 degrees F. The water level was at 10.2 feet.



700am +

LAKE MARTIN
October 1993
Charles N. Dugas

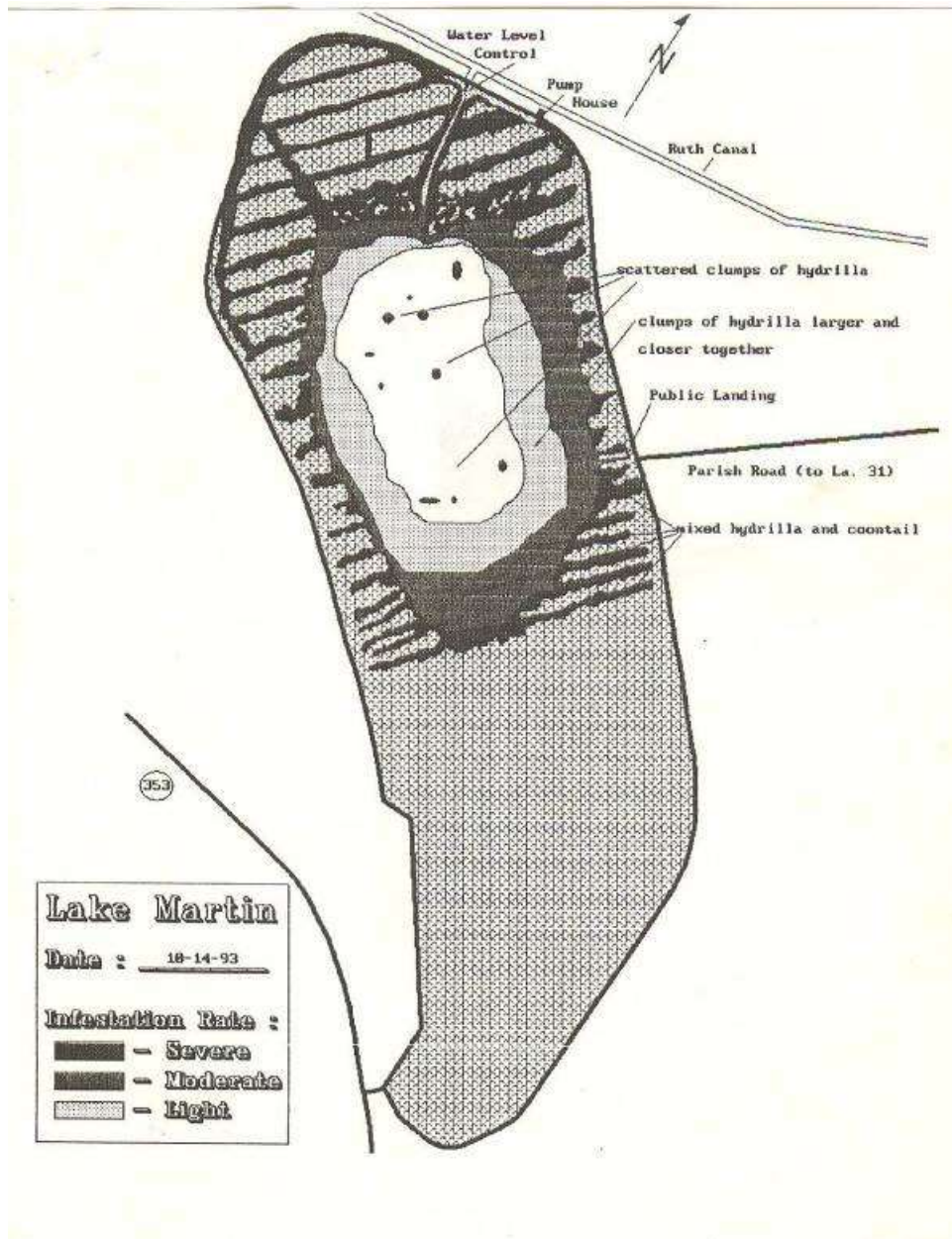
Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 14, 1993.

During this survey, the noxious aquatic weed, *Hydrilla verticillata*, was discovered in all parts of the lake. In water five feet or less it was mixed with coontail (*Ceratophyllum demersum*) and the infestation was severe. In water five to six feet deep along the flooded woods the infestation was moderate with the hydrilla being mixed with a lesser amount of coontail. There was a light infestation of hydrilla in water six to seven feet deep. At this water depth there was little or no coontail. The hydrilla at this depth was in scattered clumps four to five in diameter. In the central portion of the lake (about 7 1/2 feet) the hydrilla was in widely scattered clumps that were smaller in diameter.

Water hyacinth (*Eichhornia crassipes*), duckweed (*Lemna minor*) and fanwort (*Cabomba caroliniana*) were also found in the lake. The infestation of water hyacinth and duckweed was located in the flooded woods and was moderate to severe. Only traces of fanwort were found scattered about the lake.

The weather on the day of the survey was overcast and foggy. The water was moderately clear (secchi- 3 feet) and the water level was at 10.3 feet.

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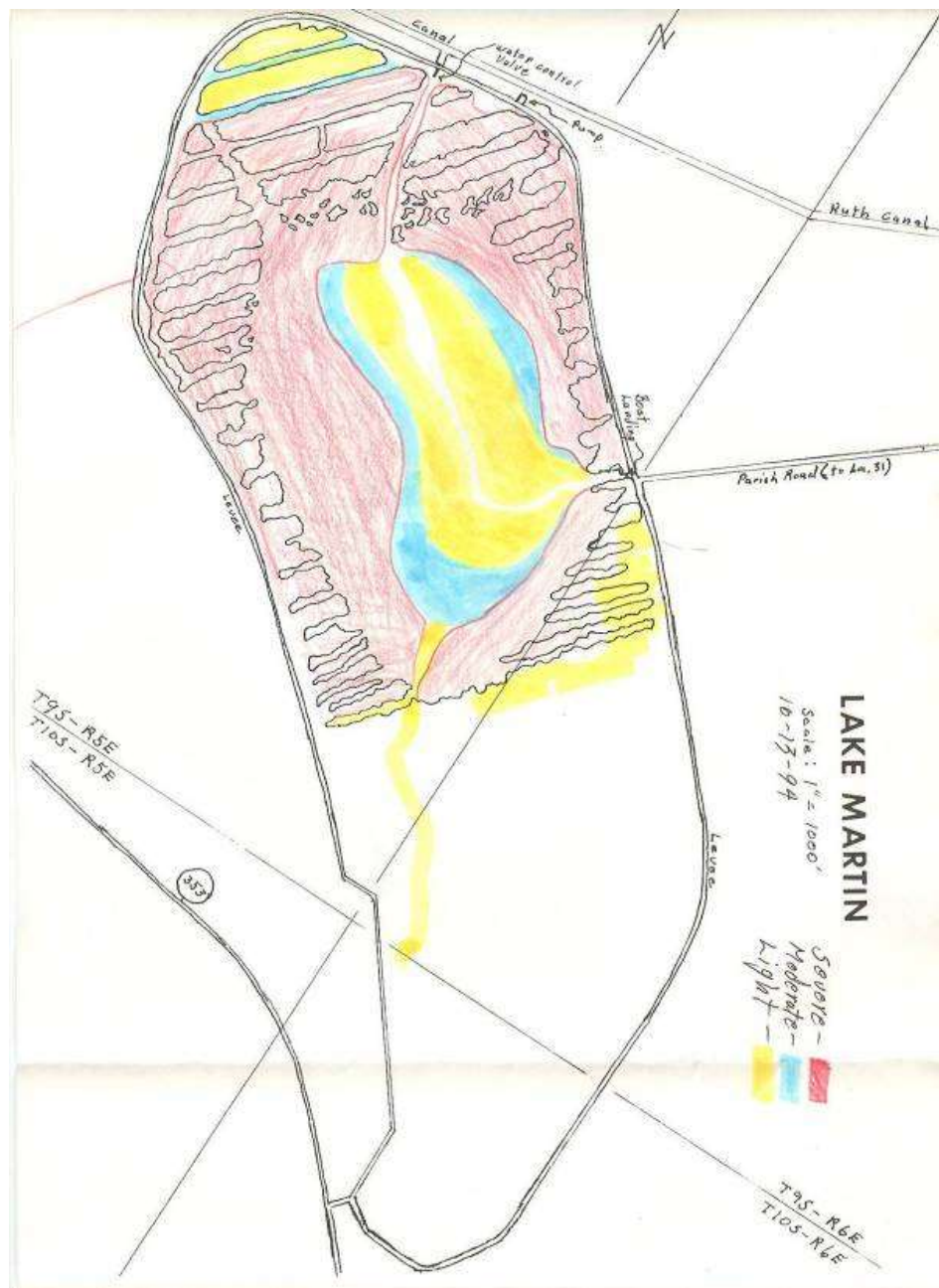
LAKE MARTIN
October, 1994
Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 13, 1994.

During the survey hydrilla, *Hydrilla verticillata*, was found to have displaced most of the submerged native aquatic plants in the open water area of the lake. In water five feet deep or less the infestation was severe. In water five to six feet deep the infestation was moderate. The infestation of hydrilla in water six to seven feet deep was light. At this water depth there was some coontail, *Ceratophyllum demersum*. In the central portion of the lake there was a narrow channel free of vegetation. The incidence of hydrilla in the flooded woods had increased slightly since the previous year.

Coontail was found in some of the canals at the north end of the lake in severe infestations. Water hyacinth, *Eichhornia crassipes*, and duckweed, *Lemna minor*, were also found in the lake. The infestation of water hyacinth and duckweed was located in the flooded woods and was moderate to severe.

The water was very clear with a secchi of six feet.

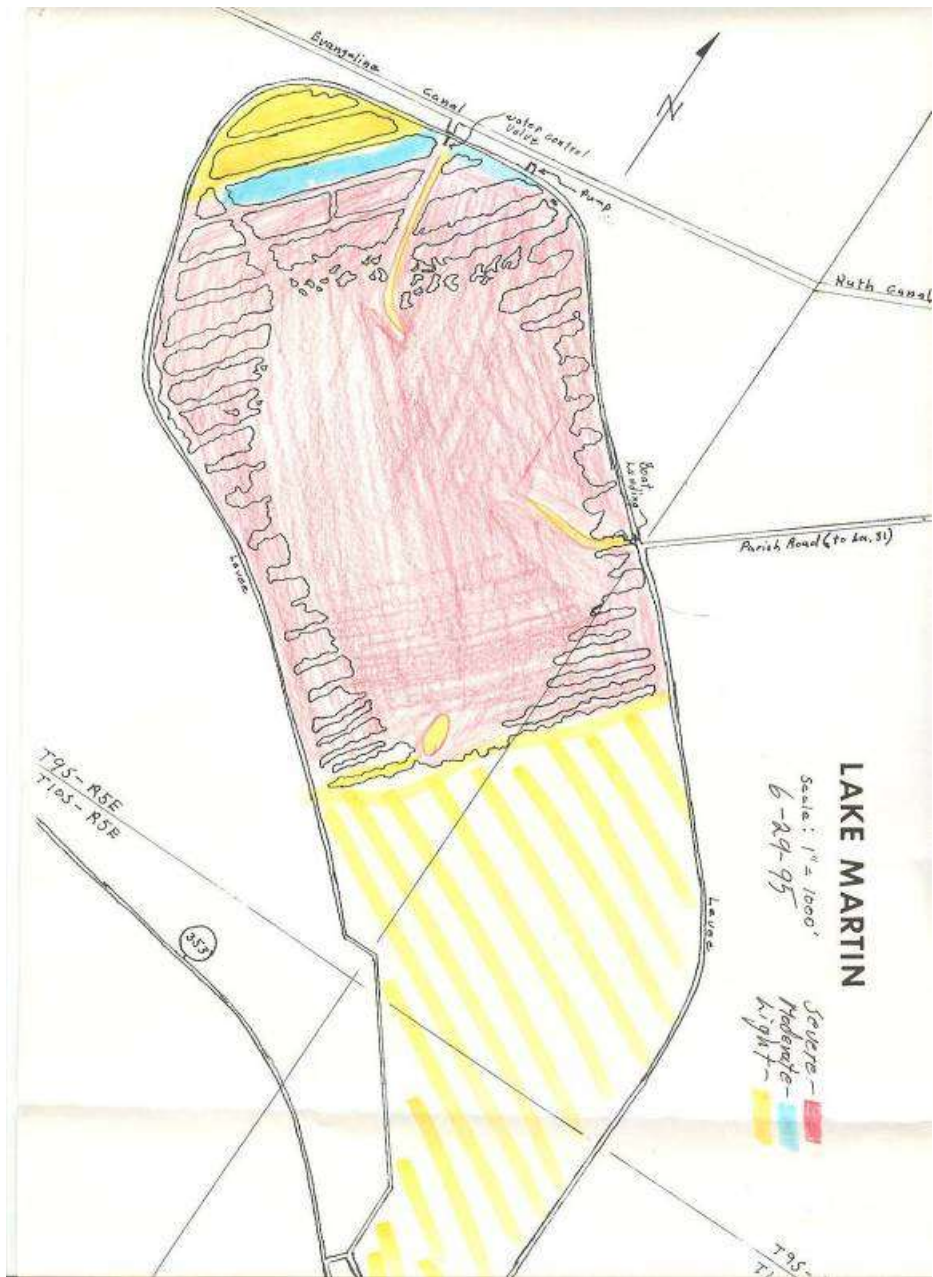


LAKE MARTIN
June 29, 1995
Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on June 29, 1995.

At the time of the survey there was probably less than 5% of the 200-acre open water portion of the lake that was not heavily infested with hydrilla, *Hydrilla verticillata*. The remainder of the lake (the flooded woods and some boat lanes on the north end of the lake) was lightly infested with submergent vegetation: mostly coontail, *Ceratophyllum demersum*, fanwort, *Cabomba caroliniana*, and some hydrilla. Duckweed, *Lemna minor*, and water-meal, *Wolffia sp.*, covered the entire surface of the lake.

The weather on the day of the survey was hot and clear. The water was extremely clear (secchi: >6 feet).



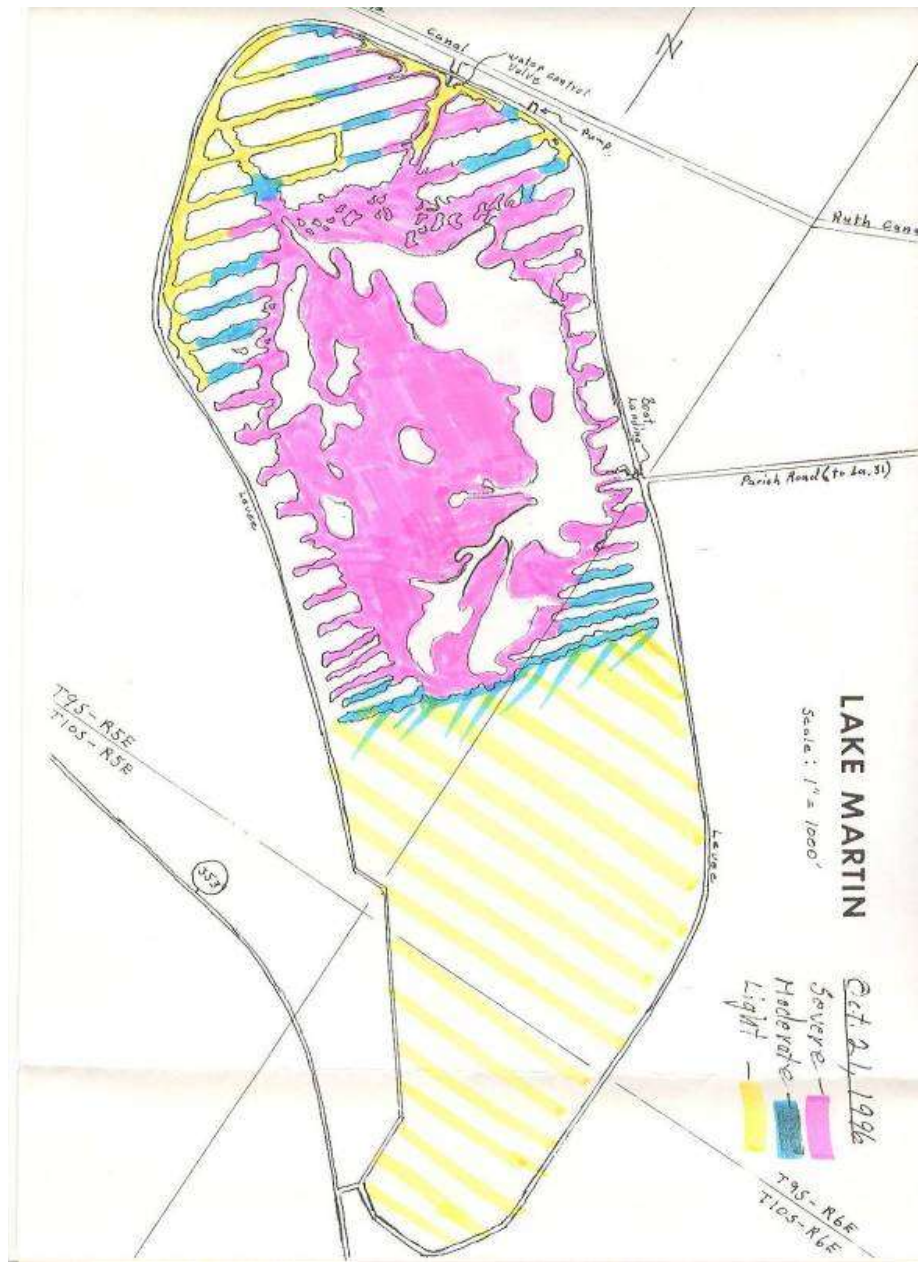
LAKE MARTIN
October, 1996
Charles N. Dugas

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on October 21, 1996.

As in the 1995 survey, hydrilla, Hydrilla verticillata, was still the predominant aquatic plant in the 200-acre open water portion of the lake. However, only about 75% of this area was infested as opposed to 95% in the previous year.

The remainder of the lake (the flooded woods and some boat lanes on the north end of the lake) was moderately infested with submergent vegetation: mostly coontail, Ceratophyllum demersum, fanwort, Cabomba caroliniana, and some hydrilla. Duckweed, Lemna minor, and water-meal, Wolffia sp., was present in the topped-out submersed vegetation.

The weather on the day of the survey was very windy, partly cloudy and cool. The water was moderately clear (secchi: <6 feet).



LAKE MARTIN

August 2003

O. Scott Schales

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on August 6, 2003. On the day of the survey the water was fairly clear with secchi disk readings of 69 cm. According to the staff gauge located at the water control valve on the north end of the lake, the water level of the lake was at 10.2 feet MSL.

The open section of the lake was free of all aquatic vegetation. Heavy infestations of a mixture of duckweed (*Lemna minor*), water hyacinth (*Eichhornia crassipes*), and watermeal (*Wolffia spp.*) was observed in portions of the wooded areas surrounding the lake. Light to moderate amounts of common salvinia (*Salvinia minima*) were also present in these areas. Dense mats of these floating plants were more severe on the east side of the lake due to a prevailing west wind.

Moderate amounts of hydrilla (*Hydrilla verticillata*) were observed adjacent to the lake's levee road south of the boat landing. This was the only submersed vegetation located.

Moderate stands of sedges (*Carex spp.*) were observed growing in the dense mats of the floating plants in the wooded sections on the north end of the lake.

Other aquatic plants that were observed in trace to light amounts were pennywort (*Hydrocotyle spp.*), alligatorweed (*Alternanthera philoxeroides*), American lotus (*Nelumbo lutea*), water primrose (*Ludwigia spp.*), duck potato (*Sagittaria spp.*), flatsedge (*Cyperus virens*), cattail (*Typhae spp.*), needlegrass (*Juncus roemerianus*), and frogbit (*Limnobium spongia*).



LAKE MARTIN
August 2004
O. Scott Schales

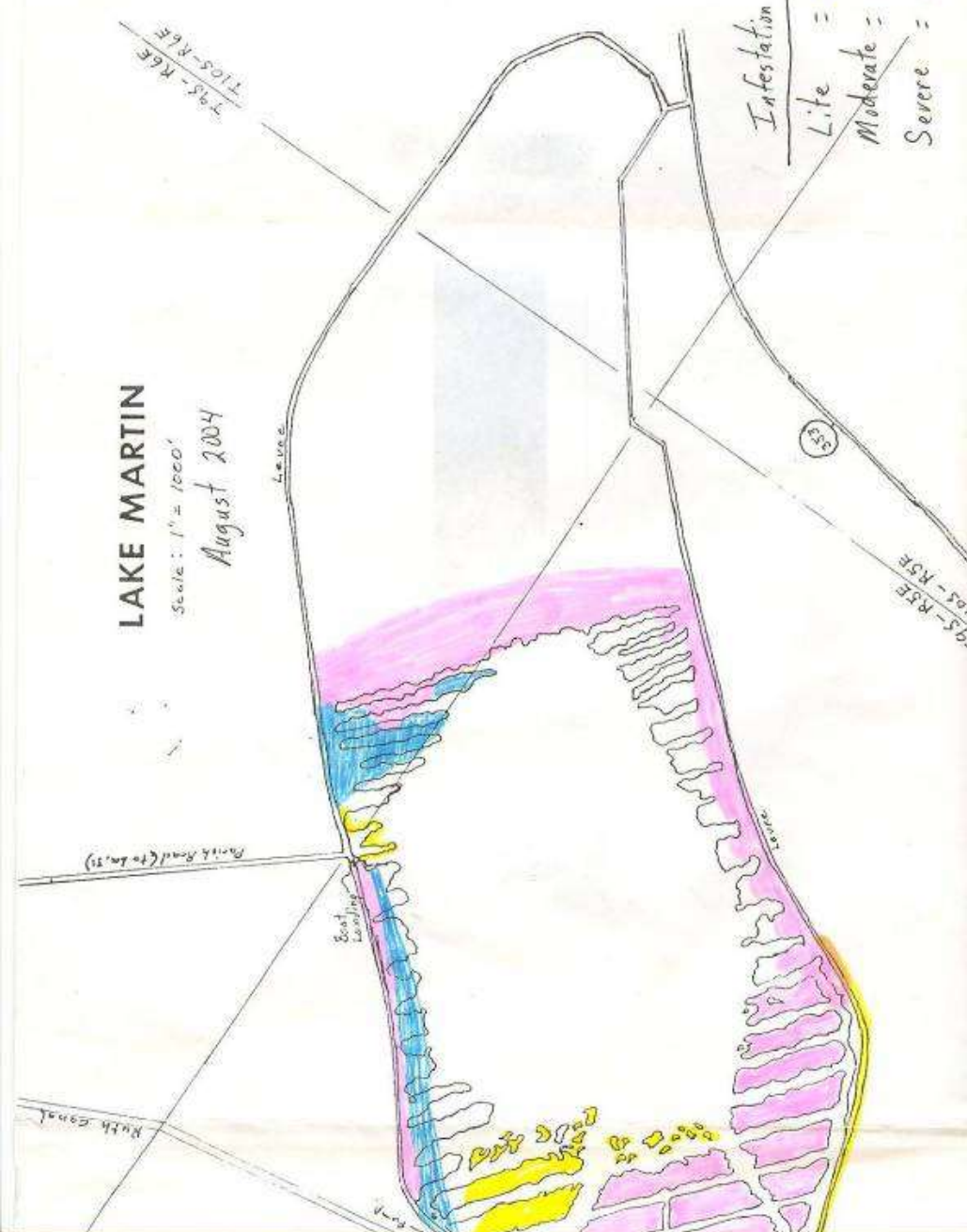
Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on August 31, 2004. On the day of the survey the water was fairly clear with secchi disk readings of 64-66 cm. The water level of the lake was 9.8' MSL.

As in last year's survey, heavy infestations of duckweed (*Lemna minor*), water hyacinth (*Eichhornia crassipes*), and watermeal (*Wolffia spp.*) was observed in portions of the wooded areas surrounding the lake. Light amounts of these plants were observed floating through the middle of the lake due to a northeast wind. Moderate amounts of common salvinia (*Salvinia minima*) were also observed in various locations throughout the lake.

Other plants observed in trace to light amounts were alligatorweed (*Alternanthera philoxeroides*), water primrose (*Ludwigia spp.*), American Lotus (*Nelumbo lutea*), pennywort (*Hydrocotyle spp.*), duck potato (*Sagittaria spp.*), flatsedge (*Cyperus virens*), sedge (*Carex spp.*), cattail (*Typhae spp.*), giant cutgrass (*Zizaniopsis miliacea*), and needlegrass (*Juncus roemerianus*).

LAKE MARTIN

Scale: 1" = 1000'
August 2004



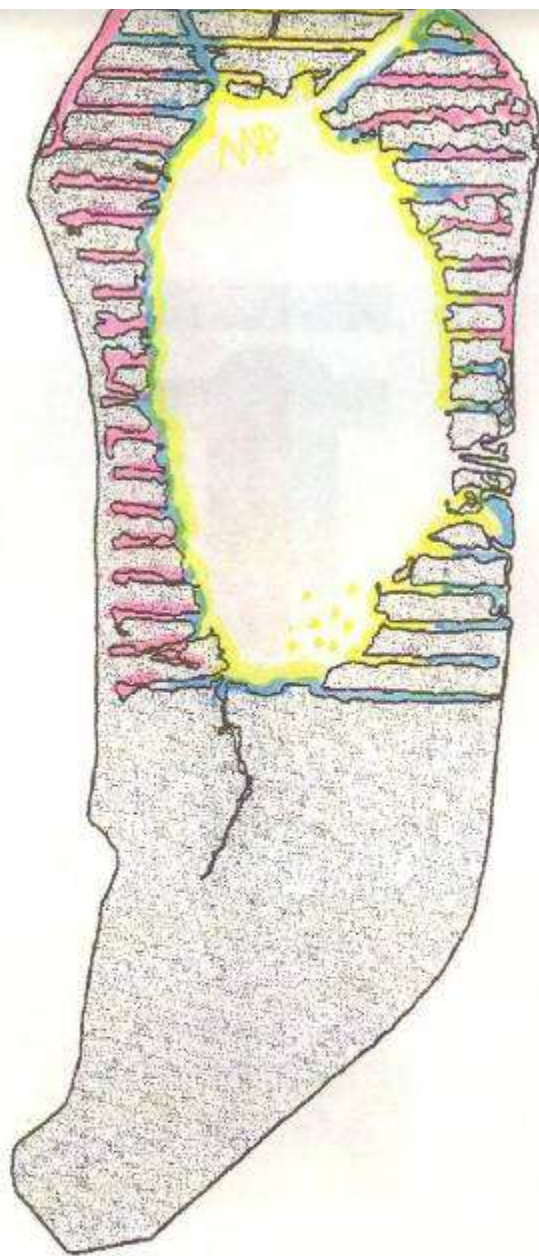
Infestation Rate
Lite =
Moderate =
Severe =

Lake Martin
September 2005
Jody David

Lake Martin, St. Martin Parish, was surveyed for the presence of aquatic vegetation on September 13th, 2005. On the day of the survey the water was clear with secchi disk readings of 68 cm. The water level of the lake was 9.7 feet MSL.

The open section of the lake was free of all aquatic vegetation. Moderate to heavy infestations of duckweed (*Lemna minor*), watermeal (*Wolffia spp.*) and common salvinia (*Salvinia minima*) was observed in portions of the wooded areas surrounding the lake. Also light amounts of water hyacinth (*Eichhornia crassipes*) were located on the southwest end of the lake in and near the rookery. The only submerged vegetation, hydrilla (*Hydrilla verticillata*), was located near the boat ramp in less than one foot of water.

Other aquatic plants that were observed in trace to light amounts were pennywort (*Hydrocotyle spp.*), alligatorweed (*Alternanthera philoxeroides*), American lotus (*Nelumbo lutea*), water primrose (*Ludwigia spp.*), duck potato (*Sagittaria spp.*), sedge (*Carex spp.*), cattail (*Typha spp.*), needle grass (*Juncus roemerianus*) and frogbit (*Limnobium spongia*).



Infestation Rate

Severe = █

Moderate = █

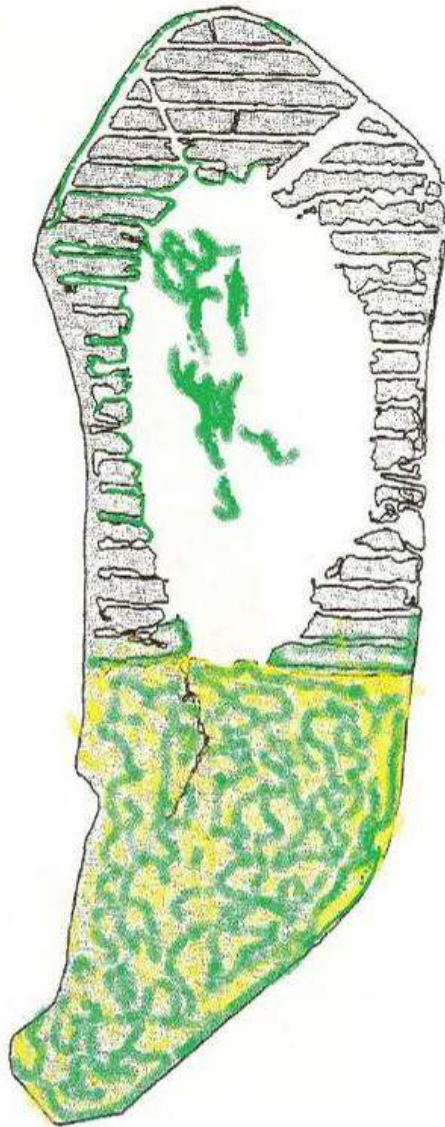
Light = █

Lake Martin
2005

Lake Martin Vegetation Survey 7 28 2010

A survey of the present aquatic vegetation was conducted on Lake Martin on 7/28/2010. At that time, no submerged vegetation was observed. Light amounts of *Eichhornia crassipes* were seen occupying the lake shoreline with slightly heavier amount observed along the western shoreline. Small patches of *Eichhornia crassipes* were seen floating in the middle of the lake. Moderate to heavy amounts of *Salvinia minima* were observed in the wooded southern end of the lake along with light patches of *Carex* spp. Small amounts of this vegetation were also seen along the northwest shoreline. All in all, aquatic vegetation amounts were light throughout the open water area of the lake. The wooded area of the southern portion of the lake appeared to contain lighter than usual amounts of floating vegetation. Lake water quality was very good with dissolved oxygen levels above 4.0 mg/l throughout the open water area of the lake. Water level was 9.8 ft and the shallow areas above the spoil ridges on the northern end of the lake were free of vegetation.

Gillnetting in the early winter of 2009 captured 33 grass carp all over 3 feet total length.



Lake Martin Vegetation Survey

7/28/11

Martin Plonsky, Dist 6 Inland Fisheries

Lake Martin continues to have a moderate amount of common salvinia (*Salvinia minima*) with the greatest concentration found in the southern third of the lake known as the bird rookery. This area of the lake is shallow with an average depth of 2 to 2.5 feet and is thickly vegetated with buttonbush (*Cephalanthus occidentalis*) and bald cypress (*Taxodium distichum*). Mats of sedge (*Carex* sp.) and water primrose (*Ludwigia* spp.) are also doing well within the bird rookery area of the lake. Attempts to control and reduce the common salvinia found in the rookery using diquat dibromide have been made with limited success due to the arduous circumstance with regard to the advantageous operation of utilized herbicide spray equipment within the rookery area. Salvinia is beginning to spread to the open areas of the lake north of the rookery. Would the rookery be a suitable location for the stocking of common salvinia weevil (*Cyrtobagous salviniae*)?

To the north of the rookery area, the open water area of the lake remains mostly free of floating vegetation with only slight amounts of water hyacinth (*E. crassipes*) observed on the lake's northern areas. The entire lake remains free of any submerged vegetation with the stocked grass carp (*Ctenopharyngodon idella*) population continuing to thrive. A few small patches of water lily (*N. odorata*) are observed along the border between the rookery and open lake areas. Very slight amounts of alligator weed (*A. philoxeroides*) can be seen along the open northern lake end banks as well as more moderate amounts in the rookery area.

Lake Martin Vegetation Survey 7 28 2011
Severe infestation = RED
Moderate = YELLOW
Slight = GREEN

